

**What is Claimed is:**

- Sub 21
1. A method for processing a document based on information in a user interface tag, comprising the steps of:
    - scanning the document to produce an image representative of the document;
    - locating the user interface tag in the image;
    - decoding data represented in the user interface tag;
    - associating the data with a service and a user identity; and
    - performing the specified service.
  2. The method of claim 1, wherein the step of locating the user interface tag comprises the steps of:
    - identifying a connected component in the image;
    - finding a plurality of extreme points within the connected component;
    - determining whether a diagonal length may be present between two of the plurality of extreme points;
    - if so, identifying corners of a border candidate; and
    - determining whether a correctly-dimensioned rectangular shape is defined by the corners.
  3. The method of claim 1, wherein the step of decoding the data comprises the steps of:
    - determining a lattice of glyphs represented in the user interface tag;
    - identifying a seed glyph within the lattice;
    - finding all glyphs within the lattice;
    - identifying the rotation of the lattice; and
    - converting the glyphs to binary data.

4. The method of claim 1, wherein the step of associating the data with a service and a user identity comprises the steps of:

extracting a user identity code from the data; and

accessing a database to determine user identification information associated with the identity code.

5. The method of claim 4, further comprising the steps of:

extracting a service code from the data; and

accessing a database to determine service information associated with the service code.

6. The method of claim 4, further comprising the step of accessing a database to determine service information associated with the identity code.

7. A method for creating a user interface tag for use with a tag-based document service system, comprising the steps of:

receiving user information representative of a user's identity;

creating an identity code based on the user information;

storing the user information and the identity code in a database;

generating a printed data code including the identity code; and

printing a user interface sticker bearing the printed data code.

8. A user interface tag bearing a machine-readable printed data code, wherein the tag is adapted to be associated with to a hardcopy document for scanning by a document processing system, and wherein the data code comprises an identity code representative of a user's identity.

9. The user interface tag of claim 8, wherein the tag is adapted to be applied to the hardcopy document.

10. The user interface tag of claim 9, wherein the tag comprises an adhesive sticker.

sub A1 } 11. The tag of claim 8, wherein the data code further comprises a service code.

12. An apparatus for the creation of user interface tags for use in a tag-based document service system, comprising:

an identity processor adapted to receive user information and create an identity code;

a user information database associating the user information with the identity code; and

an output device capable of printing a tag bearing a machine-readable printed data code representative of the identity code.

13. A document service system having a tag-based user interface, comprising:

a scanner adapted to receive a hardcopy document and produce a digitized image of the document;

an action processor adapted to identify a user interface tag image within the digitized image and to decode information represented in the user interface tag; and

an output device operated by the action processor responsive to information represented in the user interface sticker.

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